

1) Preparation and Approval. (i) For individual permits, the permittee must prepare a draft mitigation plan and submit it to the district engineer for review. After addressing any comments provided by the district engineer, the permittee must prepare a final mitigation plan, which must be approved by the district engineer prior to issuing the individual permit. The approved final mitigation plan must be incorporated into the individual permit by reference. The final mitigation plan must include the items described in paragraphs (c)(2) through (c)(14) of this section, but the level of detail of the mitigation plan should commensurate with the scale and scope of the impacts. As an alternative, the district engineer may determine that it would be more appropriate to address any of the items described in paragraphs (c)(2) through (c)(14) of this section as permit conditions, instead of components of a compensatory mitigation plan. For permittees who intend to fulfill their compensatory mitigation obligations by securing credits from approved mitigation banks or in-lieu fee programs, their mitigation plans need include only the items described in paragraphs (c)(5) and (c)(6) of this section, and the name of the specific mitigation bank or in-lieu fee program to be used. (ii) For general permits, if compensatory mitigation is required, the district engineer may approve a conceptual or detailed compensatory mitigation plan to meet required time frames for general permit verifications, but a final mitigation plan incorporating the elements in paragraphs (c)(2) through (c)(14) of this section, at a level of detail commensurate with the scale and scope of the impacts, must be approved by the district engineer before the permittee commences work in waters of the United States. As an alternative, the district engineer may determine that it would be more appropriate to address any of the items described in paragraphs (c)(2) through (c)(14) of this section as permit conditions, instead of components of a compensatory mitigation plan. For permittees who intend to fulfill their compensatory mitigation obligations by securing credits from approved mitigation banks or in-lieu fee programs. Their mitigation plans need include only the items described in paragraphs (c)(5) and (c)(6) of this section, and either the name of the specific mitigation bank or in-lieu fee program to be used or a statement indicating that a mitigation bank or in-lieu fee program will be used (contingent upon approval by the district engineer). (iii) Mitigation banks and in-lieu fee programs must prepare a mitigation plan including the items in paragraphs (c)(2) through (c)(14) of this section for each separate compensatory mitigation project site. For mitigation banks and in-lieu fee programs, the preparation and approval process for mitigation plans is described in § 332.8.

(2) Objectives. A description of the resource type(s) and amount(s) that will be provided, the method of compensation (i.e., restoration, establishment, enhancement, and/or preservation), and the manner in which the resource functions of the compensatory mitigation project will address the needs of the watershed, eco-region, physiographic province, or other geographic area of interest.

Response:

Objective/ site selection

Our primary goal objective is to create and enhance existing wetlands, uplands, open passive/prairie areas, and degraded shoreline buffer areas in a comprehensive mitigation plan. We plan to accomplish the above through the introduction of aquatic habitat pools that will reduce flood flow rates, in addition to reducing stormwater pollution and the quantity of run-off

downstream on and around the Gilberts Waitkus Park (formerly Bush Park), and the Public Works staging and facilities grounds.

Historically (1920 -1960) the above area was primarily a farm with evidence of wetland pockets. A portion of the area was farmed with drain tile introduction by farmers. The above area was connected and part of the larger off-site wetland ecosystem within the Tyler Creek Headwaters . To accommodate farming, thence rural development of the Old Town (1900 to 1960) and the Windmill Meadows Residential Subdivision (1960 -1980) [developments that were supported with septic and well utility systems], along with interrelated Urban developments within the same watershed (1980 -2005), the natural landscape/Eco-Wetland system was dramatically affected.

Farming, along with Urban design standards such as artificial drainage systems (subsurface drain tiles) supporting Farmers crop yield and the philosophy of a rapid conveyance of runoff with the use of storm sewers (18” concrete /clay tile systems), along with excavation and grading activities, and other filling, occurred in order to maximize crop yield and the developable areas.

This area in specific is part of an overall larger wetland ecosystem. It was excavated to facilitate fill to residential building development use to the above historical developments. In addition, generated spoil material or over burden was then placed in various locations. Borrow pit areas adjacent or within remaining wetland periphery acted as a dump site for broken concrete, stone , and general construction debris. .

What resulted was a stock pile of spoils along or within open borrows pits that eventually resulted in water features. Various generated soil material was used to soften undefined shorelines making the area a specific shape as well as filling the area for a Baseball Field and Public Works staging facility.

The historical excavated/filled areas have drastically impacted the overall original eco system. Through the soil survey map and onsite soil samples, we have identified that the existing soils are Houghton Muck (103A), which is a very poorly drained yet a prime hydric soil. These soils are not only suitable but are prime to support wetland Flora and Fauna. The above site selection targeted area has failed in the artificial drainage, and adds to the existing flood prone residential developments that are supported by septic and well. A portion of the initial targeted area is within a Floodplain, which is part and parcel of Kane County Forest Preserve (that Phoenix, Land of Lincoln, (NPO) and its affiliate Panacea directly participated in with County Commissioners’ role in County acquisition) , therefore the existing adjacent preserved ADID wetlands within the headwaters of Tyler Creek is relevant from a watershed approach. With that being said, we humbly feel the following objectives can be met.

Wetland creation and restoration can be met and maintained, as well as reducing flooding directly related to failing and or limited septic system functionality/well subdivision. The proposed Mitigation will create an open water submergent, emergent marsh, wet prairie, wet mesic, aquatic pool, and upland habitat. The proposed planting program along with the initial infiltration filtration of off site development overland drainage will improve water quality by slowing the rate of discharge, reduce peak flooding, reduce erosion and increase sediment

removal. This creation and enhancement/rehabilitation will reduce sediment loads and remove nutrient, herbicide and pollutant loads to Tyler Creek and the Fox River watershed.

Habitats to be created: Submergent, emergent, mesic/wet mesic, upland buffer prairie, and forested canopy areas reflective of the following targeted improvements:

Aquatic habitat ponds submergent/emergent

Shoreline restoration rehabilitation emergent/mesic

Upland buffer /prairie planting /transitional mesic to upland

Passive open and forested canopy observation areas supported by designated pedestrian walk path trails that will enable observation/rest areas integrated with designated picnic camping areas.

Open water aquatic features will include the following activities but not limited to the removal of invasive species inclusive of Buckthorn. As planting zones occur, vegetation applicable to emergent, mesic and upland prairie will be introduced. However, dredging, removal of spoils, excavation and grading with a primary targeting of concrete and debris removal will be primary.

Sedimentation siltation pools will be incorporated to address storm water runoff conveyance to the above area. The 1st primarily servicing the hydrology make up accepting Old Town development, 2005 urban development commonly referred as Ryland Homes along with farmed areas conveying waters. The next primary sedimentation and siltation areas will address IL route 72 Roadway runoff from the South property adjacent to Baseball Park.

Habitats and acreage to be created:

0.39 acre aquatic habitat pool – submergent/emergent planting zone

2.28 acre wet mesic/mesic planting zone

0.03 acre wetland to be enhanced

0.98 prairie planting zone

2.15 observation/ transitional shoreline to primary prairie planting zone

0.66 existing open water / shoreline enhancement zone

Credit request:

Type	Acreage	Percent Credit	Acre Credits
<u>Aquatic Habitat</u>	0.39	100%	0.39
(0.39 AC Habitat pool)			
<u>Establishment (Creation)</u>	2.28	100%	2.28
(2.28 AC Emergent /wet mesic)			
<u>Rehabilitation (WOUS)</u>	2.74	30%	0.822
(2.05 AC observation, 0.66 existing water, 0.03 Wetland to be enhanced)			
<u>Upland Buffer</u>	1.08	15%	0.162
(0.98 AC prairie/ 0.10 prairie observation)			
	Total Acreage		Total Credits

6.49 Acre

3.654 Acre

(3) Site selection. A description of the factors considered during the site selection process. This should include consideration of watershed needs, onsite alternatives where applicable, and the practicability of accomplishing ecologically self-sustaining aquatic resource restoration, establishment, enhancement, and/or preservation at the compensatory mitigation project site. (See § 332.3(d).)

Response: Site selection and Ecological characteristics

Phoenix & Associates performed a routine wetland delineation for the Witkus Park (formerly Bush Parks) and adjacent properties with the intent on creation/restoration of wetland areas but not limited to passive look outs supported by aquatic pool habitats that address off site development and road way urban impact runoff to and off said site. Our field findings identified that a majority of the site was very poorly drained hydric soil. PA Inc. performed a historical (aerial photos) evaluation to identify on-going activities to gauge the effects of the historical activities and to gain a base line of the ecosystem. Based on our review, the subject site hydrology is subject to and part of the following conditions, drainage from upland, ground water and the off-site wetland area. Historically (approximately 60's-80's), the wetland area was connected and part of the larger +100 acre off-site wetland ecosystem. Due to the development of various residential all serviced by Septic and well utilities Windmill Meadows Residential Subdivision excavation activities and other filling occurred to maximize the developable area. Various soil material was used to stock pile overburden and or soften the shoreline borrow areas that resulted in pond area . The filled/impacted areas have been dramatically impacted.

The wetland area and or its periphery is degraded due to the presence of concrete fill , dominance of the invasive Common Cattails (*Typha latifolia*), Reed Canary Grass (*Phalaris arundinaceae*), Eastern Cottonwood (*Populus deltoids*) and Common Buckthorn (*Rhamnus cathartica*). The soils that were identified on site were determined to be Houghton Muck (103 A) which is a very poorly drained yet a primary hydric soil. It is reasonable to conclude that the property has a natural high ground water table and is part of a larger watershed system. Based on the above Phoenix believes that the properties best and highest use would be that of a conservancy area along with restoration/enhancements that could be integrated to the remaining wetland area directly North and west of proposed enhancement area.

It has been Phoenix, Lincoln Conservation, and Panacea position that mitigation creation/restoration areas struggle due to the lack of watershed approach . The hydrology should address the needs of a community as related to storm water events where the natural historic hydrology has been artificially modified along with the deficiencies of hydric soils . It is our opinion that past Wetland development targeted sites for wetland mitigation may have been involuntary remiss in essential components such as hydric soils/flood plain, and or relief of flood stage that could support mitigation sites reflective of storm water detention / aquatic Pool Habitats introduction . Therefore Phoenix believes this site and the expansion of said site can exemplify a Holistic watershed approach that provides all the necessary components to meet and or exceed the basic criteria and that the site will be ecologically self-sustaining.

Existing Soils

Houghton Muck (103A) very poorly drained hydric soil

Base Flood Plain Elevation

The portions of the site are within a flood plain area.

The proposed mitigation area is situated south of a high quality Advanced Identification wetlands (high functional) to the north and north west as well as the property is connected via historical farmers ditch/swale supported by a network of drain tiles that are part of the Tyler Creek watershed. Phoenix, Lincoln Conservation NPO and its affiliate Panacea has historical knowledge of functionality of said Hydrology Watershed system as reflective of the attached news article dated Sept of 2000. Previously the above associates funded a matching dollar that the municipality was not in position to budget. Our dedication to a watershed approach as related to Tyler creek and the assemblage of green space through instruments such as conservancy easements has been a part of our diverse make up and mission statement since the late 1988. therefore our grass roots ,if I may knowledge of this site and the surrounding properties.

(4) Site protection instrument. A description of the legal arrangements and instrument, including site ownership, that will be used to ensure the long-term protection of the compensatory mitigation project site (see § 332.7(a)).

Response:

A Conservation Easement can be found within this submittal package, along with a licensure to enhance and or improve any and all designated open space or properties that are regulated by the Corps but not limited to properties that have been annexed by the Municipality of Gilberts and or procured by NPO Lincoln Conservation (Stewart and administrator shared by Phoenix and its associate Panacea) on or about Sept of 1998 , but not limited to the pre designated DOSP AKA ADID and so adopted on or about 2002 by the Kane County Environmental Agency enrolled with the community that has with stood the test of time.

(5) Baseline information. A description of the ecological characteristics of the proposed compensatory mitigation project site and, in the case of an application for a DA permit, the impact site. This may include descriptions of historic and existing plant communities, historic and existing hydrology, soil conditions, a map showing the locations of the impact and mitigation site(s) or the geographic coordinates for those site(s), and other site characteristics appropriate to the type of resource proposed as compensation. The baseline information should also include a delineation of waters of the United States on the proposed compensatory mitigation project site. A prospective permittee planning to secure credits from an approved mitigation bank or in-lieu fee program only needs to provide baseline information about the impact site, not the mitigation bank or in-lieu fee projectsite.

Response A: A wetland exhibit can be found within this submittal with applicable soils survey topography and Hydrological make up. Reference attached exhibits and earlier dissertation of tasks and objectives.

(6) Determination of credits. A description of the number of credits to be provided, including a brief explanation of the rationale for this determination. (See § 332.3(f).)

Response:

The ECC off-site after the fact in lieu mitigation area will require 1.77 compensatory replacement wetland credits.

By creating watershed enhancements within a eco complex that provides for the restoration, recapture , creation of aquatic habitat ,wetlands , emergent shoreline mesic , upland prairie , with featured observation areas and trails within the Witkus park there should be a value of credit requests that meet 3.654 acres.

We feel that this is substantiated by the removal of concrete spoils , re-grading, removal of invasive species and replanting the historically side casted hydric soils for the use of rural residential developments . With the above tasks performed historically impacted areas can reestablish hydrology and other wetland profiles to achieve this potential value .

By incorporating the Witkus Park into a in lieu mitigation program we will be enhancing 6.49 acres of historical degraded wetland. The targeted area and associated wetlands are heavily invaded by invasive species such as Common cattail (*Typha latifolia*). Herbicide activities and maintenance will control the invasive species contributing to the overall health of the ecosystem. By incorporating the proposed tasks into a in lieu mitigation area we will be creating aquatic pools ,upland buffers, scenic profiles of a eco area that the citizenry can enjoy at rest picnic areas along with designated paths observing the diverse recreational area panorama and its plantings.

Based on the above rationale the wetland credits generated for Witkus Park off site in lieu Wetland Mitigation area will generate 3.654 acres of wetland credit.

(i) For permittee-responsible mitigation, this should include an explanation of how the compensatory mitigation project will provide the required compensation for unavoidable impacts to aquatic resources resulting from the permitted activity.

Response:

This submittal is for an off-site approved in lieu wetland mitigation area for an after the fact wetland impact. ECC has a .2 acre area and a .51 acre area impact totaling .77. The required compensatory credit in lieu off site requires a 1.77 credit . We humbly present our request for credit that said value exceeds required compensatory replacement of the 1.77 versus our petition for a 3.654 acre credit .

(ii) For permittees intending to secure credits from an approved mitigation bank or in-lieu fee program, it should include the number and resource type of credits to be secured and how these were determined.

Response:

This submittal is for an off-site in lieu wetland mitigation area for an after the fact wetland impact. Reference credit enhancement and request .The ECC after the fact was required a 5 to 1 on the .2 impact and a 1.5 to 1 on the .5 impact

(7) Mitigation work plan. Detailed written specifications and work descriptions for the compensatory mitigation project, including, but not limited to, the geographic boundaries of the project; construction methods, timing, and sequence; source(s) of water, including connections to existing waters and uplands; methods for establishing the desired plant community; plans to control invasive plant species; the proposed grading plan, including elevations and slopes of the substrate; soil management; and Erosion control measures. For stream compensatory mitigation projects, the mitigation work plan may also include other relevant information, such as plant form geometry, channel form (e.g., typical channel cross-sections), watershed size, design discharge, and riparian area plantings.

Response:

The 6.49 acre Witkus Park area is located off Windmill Circle and Windmill Place directly East of Windmill Meadows Subdivision in Gilberts, Kane County, Illinois. Geographically, the site can be located within Section 23, Township 42 North, Range 7 East of the Third Principal Meridian within Gilberts, Kane County, Illinois. (42° 06' 14.45" North, 88° 22' 39.64" West). The property is outlined on a location map contained within this package.

Construction methods:

Construction of the site will be partially serviced by excavation / dredging / grading of the impacted wetland area and the removal of fill material. General maintenance and the removal of invasive species .

The proposed grading plan, channel and forested wetland locations are attached to this package.

Proposed Planting Program

Our site is bordered by a high functional wetland area 429 to the North. The dominant species found within the High Functional Wetland 429 is Reed Canary Grass and Common Cattails. The ADID wetland that is hydrological connected to the Tyler Creek. Our draft planting plan will be divided up into specific planting zones. Our planting plan will support upland prairie, wet, submerging , emergent mesic sedge meadow, shoreline, and forested upland / wetland areas. See attached planting list as "Exhibit A"

Forested Wetland Tree/Shrub Zone

A tree/shrub planting zone will be utilized at peninsula observation areas interrelated to aquatic pools.. This forested component will create key habitat as well as shoreline stabilization of the wetland emergent area as well as creating favorable habitat for fauna. It is Phoenix proposal that areas such as these will be supported by Picnic rest areas for the citizenry to enjoy said aesthetics

Emergent Grass/Sedge Zone

The grass/sedge planting zone will be contained within the center of the mitigation area. This area will be dominated by sedges and grasses only. Solid emergent sedge meadow plantings will be utilized.

Submerging to emergent shoreline

The shoreline of the wetland area will be created to along the perimeter of the wetland area and will provide a transition area from wet to dry.

Upland Prairie

The upland area surrounding the site will be planted as tall grass prairie areas. We will establish an approximate 100 foot upland buffer in the south of the property boundary.

Timing and sequence:

The work is anticipated to occur in the spring/summer months or at times of lower precipitation and water levels. The excavation dredging removal of concrete and other debris along with aquatic pools channels, sedimentation siltation ponds and creation of shorelines ,along with preparatory services to support the forested areas and or canopies adjacent to wetlands and or upland areas will occur first. This excavation is priority because the ground water table is already low due to off-site drainage. Running parallel with the excavation of the open water channel the portion of the historically impacted area (i.e. soils stockpiling) will be removed and or graded to support passive observation areas . Next will be herbicide application to remove any over achieving invasive species . Upon completion of the herbicide application the area will be seeded and planted based on the approved planting plan. A combination of drill seeding, slit seeding and broadcast seeding will be used. Once germination is completed the maintenance program will begin.

(8) Maintenance plan. A description and schedule of maintenance requirements to ensure the continued viability of the resource once initial construction is completed.

Response:

**RECOMMENDED MONITORING AND MANAGEMENT SCHEDULE
(YEARS 1 – 5)**

	PLANTING YEAR	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
REVIEW AS-BUILT DRAWINGS	X					
PLANTING & OBSERVATION	X	X	X	X	X	X
BI-ANNUAL VEGETATION SAMPLING		X	X	X	X	X
WATER LEVEL MONITORING	X	X	X	X	X	X
ANNUAL REPORT		X	X	X	X	X
PRESCRIBED BURN				X		X
WEED CONTROL	X	X	X	X	X	X

SITE VISITS	X	X	X	X	X	X
WETLAND DELINEATION						X
DEBRIS MONITORING						
	X	X	X	X	X	X

SUGGESTED MANAGEMENT

1. First Year. Mow the planted areas to a height of 6-8 inches (not including the emergent areas) 2-4 times during the early growing season and as needed to control non-native weedy species. Mowing (including weed whipping) shall take place prior to or when non-native and weedy species are flowering so as to prevent seed set. Control undesirable plant species, when present in small quantities, by hand pulling prior to the development and maturity of the plant. Hand removal shall include the removal of all aboveground and belowground herbicide (as necessary) to non-native and weedy species within the naturalized areas with appropriate herbicide.

Mowing should occur in May/June and August/ September

Herbicide should be applied by a trained and licensed applicator. Non-selective herbicides can be used but with utmost caution. Non-selective herbicides are absorbed through the plant tissues and work their way into the root system, effectively killing the plant. The only acceptable herbicides are glyphosate based such as Roundup or Rodeo.

Herbicide should be conducted as needed from April-October of each year.

2. Second Year. Control of undesirable plant species during the second growing season shall consist primarily of herbicide application.

Herbicide should be conducted as needed from April-October of each year.

Mowing (including weed whipping) shall be conducted two times during the early growing season and as needed to a height of 6 to 8 inches to prevent annual weeds from producing seed. Mowing should occur in May/June and August/ September

Over-seed should be applied at half the rates to the entire mitigation area. Overs-seeding should be performed in April and May of the second growing season.

3. Third, Fourth, and Fifth Years. Undesirable plant species will be controlled (as necessary) by mowing (including weed whipping), hand pulling.

Mowing should occur in May/June and August/ September

Herbicide should be applied by a trained and licensed applicator. Non-selective herbicides can be used but with utmost caution. Non-selective herbicides are absorbed through the plant tissues and work their way into the root system, effectively killing the plant. The only acceptable herbicides are glyphosate based such as Roundup or Rodeo.

Herbicide should be conducted as needed from April-October of each year.

At the completion of the third growing season (dependent on fuel availability; dominance of graminoid species, i.e. grasses and sedges, is required for successful burning), fire may be introduced to the naturalized areas as the primary management tool. Trained professionals experienced in the fuel types present shall conduct burning. State and Local permits shall be obtained prior to prescribe burning. Prior to a prescribed burn, surrounding property owners

as well as local police and fire departments will be notified. A burn plan designating the preferred wind direction and speed, location of firebreaks, and necessary personnel and equipment shall be prepared and utilized in planning and burn implementation.

The initial burn shall be dependent on fuel availability that is directly related to the quantity and quality of grasses, sedges, and forbs present within the planting area. The burn season runs from November 1 through April 30 and burns shall be conducted whenever conditions are suitable.

Generally after the third growing season, a new prairie/wetland area shall be burned every other year.

RECOMMENDED MONITORING AND MANAGEMENT SCHEDULE (YEARS 6 – 10)

	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
REVIEW AS-BUILT DRAWINGS					
PLANTING OBSERVATION	X	X	X	X	X
BI-ANNUAL VEGETATION SAMPLING	X	X	X	X	X
WATER LEVEL MONITORING	X	X	X	X	X
ANNUAL REPORT					
PRESCRIBED BURN (WHEN NEEDED)	X	X	X	X	X
WEED CONTROL	X	X	X	X	X
SITE VISITS	X	X	X	X	X
WETLAND DELINEATION					
DEBRIS MONITORING	X	X	X	X	X

SUGGESTED LONG TERM MANAGEMENT

Long term, yearly maintenance including the following recommendations:

- 1.) A high mow (6-8" minimum height) to be completed once or twice on all side slope areas as needed to control Queen Anne's Lace (*Daucus carota*), Ragweed (*Ambrosia species*) and other weedy species.
- 2.) Spot herbiciding of Reed Canary Grass (*Phalaris arundinacea*), Cattails (*Typha species*), Purple loosestrife (*Lythrum salicaria*), Common Reed (*Phragmites australis*) and other undesirable, non-native vegetation will be completed within the on-site mitigation area with an approved aquatic herbicide.
- 3.) Woody species removal, such as Sandbar Willow (*Salix interior*) and Eastern Cottonwood (*Populus deltoides*), may need to be removed and receive a wick herbicide.

(9) *Performance standards. Ecologically-based standards that will be used to determine whether the compensatory mitigation project is achieving its objectives. (See § 332.5.)*

Response:

Vegetation Performance Standards

1) A temporary cover crop must be planted on all slopes immediately upon completion of any earthwork to prevent soil erosion. Soil erosion and sediment control measures must be in place during all construction work. An erosion control blanket may also be required depending on site conditions and season of planting. Within three (3) months, at least 90% of this area, as measured by aerial coverage, will be vegetated. If the desired long-term slope vegetation is not planted with the temporary crop, it must then be planted in the first available growing season appropriate for each plant community. All cover crop species must be non-persistent or native and not allelopathic.

2) Species selected for the planting shall be native to the county where the bank is located (ref. Swink and Wilhelm, *Plants of the Chicago Region*, 1994), and shall be appropriate for the hydrologic zone to be planted. A minimum number of native perennial species proposed for establishment must be present within each plant community to meet certification standards, as follows:

-Emergent minimum of 5 native perennial species

-Sedge meadow/wet prairie- minimum of 25 native perennial species

-Mesic Prairie (buffer) - minimum of 15 native perennial species

3) A targeted 50% of the required minimum number of species should occur at a 10% frequency or greater, within each plant community zone or area. Multiple transects within a given plant community may be combined for this frequency analysis.

4) A native mean coefficient of conservatism value (native mean C value) of greater than or equal to 3.5 must be achieved in each separate vegetated plant community (*e.g.* wet prairie, marsh, mesic prairie buffer), and as measured over the entire mitigation bank area. Native plant species coefficients of conservatism are designated in Swink, Floyd and Gerould Wilhelm, Plants of the Chicago Region (Indianapolis: Indiana Academy of Science, 4th edition, 1994).

5) The native floristic quality index value (native FQI) is targeted to be greater than or equal to 10 in each separate vegetated community zone and as measured over the entire mitigation site. The floristic quality assessment method is described in Swink and Wilhelm, Plants of the Chicago Region.

Steps # 4 and #5 are evaluated based upon the overall plant community inventories as well as transect summaries. If a portion of the site has achieved compliance with the performance standards, the standard must be maintained in that portion until the final compliance sign off for the bank.

6) No area over the entire mitigation area site greater than 1 square meter shall be devoid of vegetation, as measured by aerial coverage, unless specified on approved mitigation plans. This standard does not apply to emergent and aquatic communities.

7) None of the three most dominant plant species in any of the wetland community zones may be non-native species or weedy species, including but not limited to Typha angustifolia, Typha X glauca, Phragmites australis, Lythrum salicaria, Salix interior, or Phalaris arundinacea, unless otherwise indicated on the approved mitigation plan. These species shall not cumulatively comprise more than 5% of the total percent cover (not relative cover) for each community.

8) The native perennial species within each wetland plant community shall represent at least 80% of the total dominance measure. A lower percent native perennial species of the total dominance measure may be acceptable IF it is demonstrated with transect data that the remaining dominance percentage is by native annual and biennial wetland plant species and the FQI and mean C standards are exceeded.

9) A vegetation map of the bank site based on as-built drawings developed at the completion of implementation must be submitted. This information must be descriptive and define the limits of all vegetation areas by community type, based on field observations. The permanent transects must be shown on this map. Representative photographs of each vegetation area by general community zone must be submitted to the Corps of Engineers.

Hydrology Performance Standards.

Consistent with the Corps of Engineers Wetlands Delineation Manual (1987) and/or any appropriate regional supplements, all areas to receive credit as wetland plant communities shall have soils saturated within 12 inches or less of the ground surface for at least 12.5% of the growing season as defined in this ICA. To meet this standard the site will demonstrate inundated or saturated soils **for 23 consecutive days during the growing season**. In addition to this minimum, hydrology data should reflect a hydrologic regime that is appropriate to the native plant community proposed for establishment.

This hydrology standard shall be maintained throughout the monitoring period, and demonstrated each year, following the monitoring guidelines outlined above.

(10) Monitoring requirements. A description of parameters to be monitored in order to determine if the compensatory mitigation project is on track to meet performance standards and if adaptive management is needed. A schedule for monitoring and reporting on monitoring results to the district engineer must be included. (See § 332.6.)

Response:

Vegetation Monitoring

Permanent straight line sampling transects must be established, plotted onto project drawings and a current aerial photograph of the site, across each proposed plant community of the mitigation bank site. Sufficient transects must be established to provide full representation of all plant communities within the site, which might include more than one of each type. Each transect must consist of a series of 1.0 square meter quadrats (no fewer than 10) at regular or random intervals (5-10m suggested interval). The number of quadrats depends on system complexity and the size of each plant community for which credit is sought. A rough guideline is 2 quadrats per acre in each plant community as a minimum. The plant sampling must be done in May/June and August/September each year following the initial planting, throughout the monitoring period. Data shall be reported by plant community, and by transect. A total plant species list should be compiled over the entire site for which credit is sought. Data may be summarized by plant community for which credit is sought in monitoring reports, however, the full sampling data should be provided in an appendix to the annual monitoring report. Species dominance shall be determined by calculating importance values, with at least the following two parameters: frequency and percent cover. Absolute percent aerial cover data should be reported, though the frequency and cover may be relativized to calculate Importance Values (e.g. $RF + RC = IV$). The monitoring transects are shown on the attached planting plan

Hydrology water quality Monitoring

Within each plant community for which credit is sought, wetland hydrology must be independently demonstrated from data gathered from pre and post rain events .Phoenix is presently rendering said NPDES permit Compliance throughout the community for the next 5 years and will incorporate enrolled site hydrology. In addition as members of the Tyler Creek waters Coalition we have targeted an area to gather water samples during high and low flow water flow antcipant of the expansion of said in lieu mitigation site . Subject to the expansion of said site monitoring wells and/or pezometers can be placed throughout the bank site. The plans for well/piezometer placement must be approved by the Army Corps of Engineers prior to approval of the expanded mitigation area. Monitoring data would be collected from the wells/piezometers (if necessary) at a minimum on a weekly basis throughout the growing season. Automated continuous water level recorders can be installed , and could be downloaded monthly to avoid more significant loss of data in the event of human error . For the hydrology standard, the growing season is defined as April 15 – October 20. This growing season definition is the average of the growing seasons of the six Chicago District Counties as noted in the Chicago District Regulatory Bulletin, dated 19 June 2006.

(11) Long-term management plan. A description of how the compensatory mitigation project will be managed after performance standards have been achieved to ensure the long-term sustainability of the resource, including long-term financing mechanisms and the party responsible for long-term management. (See § 332.7(d).)

Response:

The Stewards are Phoenix & Associates Inc. Lincoln Conservation and or its affiliate Panacea (aka associate) once said site is established after a 5 year period. the long term managers for the maintenance and protection will be the Municipality of Gilberts Parks department .The parks department will be involved during the 5 year process with designated maintenance schedules to support in the care of said area i.e. garbage pickup , picnic rest area lawn care and or paths .presently Phoenix has been petitioned and is working with the community to incorporate a drainage open land tax that can support the ongoing long term quality care . Said funds would be appropriated for all critical eco open space form a watershed approach and needs.

(12) Adaptive management plan. A management strategy to address unforeseen changes in site conditions or other components of the compensatory mitigation project, including the party or parties responsible for implementing adaptive management measures. The adaptive management plan will guide decisions for revising compensatory mitigation plans and implementing measures to address both foreseeable and unforeseen circumstances that adversely affect compensatory mitigation success. (See § 332.7(c).)

Response:

PA Inc. will work with the Army Corps of Engineers to rectify any problems which arise due to unforeseen circumstances. If unforeseen circumstances are observed that may jeopardize the ability of the Waitkus Park mitigation area from achieving performance standards either entity will notify the other in writing. A meeting may be necessary to discuss the options present in the field to come up with a mutually agreed upon solution.

(13) Financial assurances. A description of financial assurances that will be provided and how they are sufficient to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with its performance standards (see § 332.3(n)).

Phoenix & Associates Inc.is responsible for securing sufficient funds or other financial assurances to cover contingency actions in the event of mitigation failure. Phoenix & Associates Inc. is responsible for adequate funding to monitor and maintain the site throughout its operational life . Provision for long term management through financial assurances or through agreements with the municipality of Gilberts/Parks department watershed tax will also be a revenue source to secure long term care after a successful 5 year term .

Phoenix & Associates Inc. established an operational account assurance through its values of storm water detention Flood storage commodities presently at a value in excess of \$250,000.00 This account will act as the form of a assurance bond (Phoenix will self perform) for the construction, planting, monitoring and maintenance value.

The amount of the operational account is based on the total cost of earthwork, herbicide, plant, and monitor the site for five years. Based on the initial earth work and initial planting, the assurance bond will be reduced by the amount of the construction and planting costs completion .

At the end of each year, the remaining balance based on monitoring reports submittal the assurance bond will be reduced by 20% of the remaining funds to maintain ongoing maintenance and monitoring costs.

(14) Other information. The district engineer may require additional information as necessary to determine the appropriateness, feasibility, and practicability of the compensatory mitigation project.

Response:

If any additional information is required please do not hesitate to call

“Exhibit A”
Proposed Planting Program

Created Forested Wetland

Forested Wetland Shrubs

Scientific Name	C-Value	Common Name	Three Gallon
Cephalanthus occidentalis	5	BUTTONBUSH	25
Cornus stolonifera	6	RED-OSIER DOGWOOD	25

Total	50
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Wet to Mesic Prairie Shoreline Mixture

Temporary Cover Crop

Scientific Name	C-Value	Common Name	Pounds Per Acre
Avena sativa	0	Oats	32
Lolium multiflorum	0	Italian Rye Grass	8

Permanent Planting Matrix

Scientific Name	C-Value	Common Name	Pounds Per Acre
Andropogon gerardii	5	BIG BLUESTEM GRASS	2.000
Andropogon scoparius	5	LITTLE BLUESTEM GRASS	2.000
Aster novae-angliae	4	NEW ENGLAND ASTER	0.125
Bouteloua curtipendula	8	SIDE-OATS GRAMA	2.000
Carex vulpinoidea	2	BROWN FOX SEDGE	0.500
Eleocharis erythropoda	2	RED-ROOTED SPIKE RUSH	0.125
Eleocharis obtusa	3	BLUNT SPIKE RUSH	0.125
Elymus canadensis	4	CANADA WILD RYE	1.000
Elymus virginicus	4	VIRGINIA WILD RYE	1.000
Glyceria striata	4	FOWL MANNA GRASS	1.000
Helenium autumnale	5	SNEEZEWEED	0.125
Leersia oryzoides	4	RICE CUT GRASS	1.000
Panicum virgatum	5	SWITCH GRASS	1.000
Scirpus validus creber	5	GREAT BULRUSH	0.125
Sorghastrum nutans	5	INDIAN GRASS	1.500

Spartina pectinata	4	PRAIRIE CORD GRASS	0.500
Sporobolus heterolepis	10	PRAIRIE DROPSEED	0.250
Total Seed Per Acre			54.375

Existing Wetland Enhancement

The existing wetland (2.2 Acres) is a partial marsh/open water pond. The uplands surrounding the wetland area were historically wetland but were permanently impacted/filled by the previous developer in the 1970's. The wetland/open water pond remaining has been left without maintenance and is dominated by invasive *Typha*, *Phalaris*, *Salix* and *Populus* species.

Aquatic Bed Plugs

Permanent Planting Matrix

Scientific Name		Common Name	Plugs per AC
Nymphaea tuberosa	7	White water lily	50
Pontederia cordata	10	Pickereel weed	100
Polygonum amphibium	4	Water knotweed	100
Potamogeton pectinatus	7	Sago pondweed	100
Ranunculus longirostris	8	White water crowfoot	100
Total plugs per Acre			450

Emergent and Sedge Meadow Enhancement Mix

Temporary Cover Crop

Scientific Name	C-Value	Common Name	Pounds Per Acre
Avena sativa	0	OATS	32
Lolium multiflorum	0	ITALIAN RYE GRASS	8

Permanent Planting Matrix

Scientific Name	C-Value	Common Name	Pounds Per Acre	Plugs Per Acre
Acorus calamus	7	SWEET FLAG	0.125	50
Alisma subcordatum	4	COMMON WATER PLANTAIN	0.375	150
Bidens cernua	5	NODDING BUR MARIGOLD	0.313	
Bidens frondosa	5	COMMON BEGGER'S TICK	0.031	

Boltonia latisquama recognita	9	FALSE ASTER	0.188	
Carex bebbii	6	BEBB'S OVAL SEDGE	0.125	
Carex lupulina	7	COMMON HOP SEDGE	0.063	
Carex scoparia	7	LANCE-FRUITED OVAL SEDGE	0.125	
Carex stipata	3	COMMON FOX SEDGE	0.125	
Carex vulpinoidea	2	BROWN FOX SEDGE	0.500	
Echinochloa crusgalli	0	BARNYARD GRASS	0.500	
Eleocharis erythropoda	2	RED-ROOTED SPIKE RUSH	0.125	
Eleocharis obtusa	3	BLUNT SPIKE RUSH	0.125	
Eupatorium maculatum	4	SPOTTED JOE PYE WEED	0.125	
Glyceria striata	4	FOWL MANNA GRASS	0.250	
Helenium autumnale	5	SNEEZEWEED	0.075	
Iris virginica shrevei	5	BLUE FLAG	0.075	75
Juncus torreyi	4	TORREY'S RUSH	0.075	
Leersia oryzoides	4	RICE CUT GRASS	0.200	
Mimulus ringens	6	MONKEY FLOWER	0.031	
Penthorum sedoides	5	DITCH STONECROP	0.010	
Polygonum lapathifolium	0	HEARTSEASE	0.250	
Polygonum pensylvanicum	0	PINKWEED	0.250	
Rudbeckia laciniata	5	WILD GOLDEN GLOW	0.125	
Sagittaria latifolia	4	COMMON ARROWHEAD	0.400	200
Scirpus atrovirens	4	DARK GREEN RUSH	1.250	
Scirpus fluviatilis	4	RIVER BULRUSH	0.500	200
Scirpus pendulus	4	RED BULRUSH	0.125	
Scirpus validus creber	5	GREAT BULRUSH	0.250	200
Silphium perfoliatum	5	CUP PLANT	0.075	
Sparganium eurycarpum	6	COMMON BUR REED	1.000	75
Verbena hastata	4	BLUE VERVAIN	0.250	
Vernonia fasciculata	5	COMMON IRONWEED	0.075	
Total Amount Per Acre			48.111	950

Mesic Prairie Buffer Mixture

Temporary Cover Crop

Scientific Name	C-Value	Common Name	Pounds Per Acre
Avena sativa	0	OATS	32
Lolium multiflorum	0	ITALIAN RYE GRASS	8

Permanent Planting Matrix

Scientific Name	C-Value	Common Name	Pounds Per Acre
Andropogon gerardii	5	BIG BLUESTEM GRASS	1.000
Andropogon scoparius	5	LITTLE BLUESTEM GRASS	4.000
Asclepias sullivantii	8	PRAIRIE MILKWEED	0.750
Asclepias syriaca	0	COMMON MILKWEED	0.031
Aster ericoides	5	HEATH ASTER	0.025
Aster laevis	9	SMOOTH BLUE ASTER	0.125
Baptisia leucantha	8	WHITE WILD INDIGO	0.063
Carex bicknellii	10	COPPER-SHOULDERED OVAL SEDGE	0.125
Cassia marilandica	9	MARYLAND SENNA	0.063
Coreopsis tripteris	5	TALL COREOPSIS	0.063
Desmodium canadense	4	SHOWY TICK TREFOIL	0.031
Echinacea purpurea	3	BROAD-LEAVED PURPLE CONEFLOWER	0.188
Elymus virginicus	4	VIRGINIA WILD RYE	3.000
Eryngium yuccifolium	9	RATTLESNAKE MASTER	0.250
Heliopsis helianthoides	5	FALSE SUNFLOWER	0.125
Lespedeza capitata	4	ROUND-HEADED BUSH CLOVER	0.063
Liatris spicata	6	MARSH BLAZING STAR	0.095
Monarda fistulosa	4	WILD BERGAMOT	0.063
Panicum virgatum	5	SWITCH GRASS	0.063
Parthenium integrifolium	8	WILD QUININE	0.175
Penstemon digitalis	4	FOXGLOVE BEARD TONGUE	0.300
Petalostemum purpureum	9	PURPLE PRAIRIE CLOVER	0.125
Ratibida pinnata	4	YELLOW CONEFLOWER	0.125
Rudbeckia hirta	1	BLACK-EYED SUSAN	0.250
Rudbeckia subtomentosa	9	SWEET BLACK-EYED SUSAN	0.125
Silphium integrifolium	5	ROSIN WEED	0.100
Silphium laciniatum	5	COMPASS PLANT	0.075
Silphium terebinthinaceum	5	PRAIRIE DOCK	0.050
Solidago riddellii	7	RIDDELL'S GOLDENROD	0.200
Sorghastrum nutans	5	INDIAN GRASS	1.000
Total Seed Per Acre			52.711